AUTOLOGOUS TRANSFUSION - THREE YEARS ON - WHAT IS NEW? WHAT HAS HAPPENED?*

In 1995, there was a paucity of randomised controlled trials (RCT) on autologous transfusion. This situation has not substantially changed and is unlikely to do so in the immediate future because of difficulties in designing and executing such trials. Although new evidence on costs has been produced there is still none on cost-effectiveness in the UK.

The Panel reiterates that the UK is well served by the National Transfusion Services. It noted persuasive evidence of variation in blood use between surgeons. As there is considerable scope for improvement, we wish to reinforce the need to ensure good surgical techniques to minimise blood loss.

Since the last conference, the environment in which transfusion services in the UK are delivered has changed. The risks of morbidity and mortality following allogeneic transfusion have never been lower. However, public confidence has been undermined by continuing concerns about transmission of HIV and Hepatitis C Virus (HCV) and new concerns about the potential for transmission of spongiform encephalopathies. As a result, the National Transfusion Services have taken several costly measures including, from June 1998, banning the use of British donors' plasma for fractionation. From July 1999, all plasma destined for fractionation will be subjected to nucleic acid testing for HCV. All cellular components will be leukodepleted by September 1999. With the cost of allogeneic blood doubling due to these safety measures, further expansion of the use of autologous transfusion may provide a safer alternative at a similar or lower cost.

For their effective and safe use, all autologous transfusion techniques require:

- active management by a leading clinician,
- adherence to standard operating procedures,
- the use of appropriate algorithms to predict optimal transfusion support for the individual patient.

These techniques should not be considered in isolation but should be tailored to the clinical management of individual patients. They should become an integral part of a comprehensive transfusion programme.

INTRA-OPERATIVE CELL SALVAGE (ICS)

The use of intraoperative cell salvage has grown since 1995 and evidence has accumulated that it is practical and safe. It also appears to be relatively inexpensive and may even be cost saving, although this has not been conclusively demonstrated. The case for routinely considering the use of ICS in appropriate circumstances, seen as strong in 1995, has strengthened.

PREOPERATIVE AUTOLOGOUS DONATION (PAD)

There is no evidence of any increase in the use of this facility in the past three years in the UK. PAD should be available for use in appropriately selected patients. The conclusions of the previous panel remain valid.

The evidence of the value and safety of recombinant human erythropoietin in PAD is unclear: its benefit in autologous transfusion is unproven.

ACUTE NORMOVOLAEMIC HAEMODILUTION (ANH)

There is still no evidence that ANH is effective in reducing allogeneic red cell transfusion. Although serious hazards have not been reported, the physiological benefits are uncertain. Mathematical models suggest that clinically effective ANH would involve withdrawal of moderate to large volumes of blood in patients expected to experience considerable blood loss. RCTs are required before this technique can be widely recommended.

OXYGEN CARRYING SOLUTIONS

Since 1995, the development of oxygen carrying solutions has not progressed smoothly and there remain unanswered questions on their safety and efficacy relative to allogeneic blood. This group of compounds is unlikely to make a significant contribution to transfusion practice for some time.

REPORTING OF ADVERSE EVENTS

The panel urges clinicians to report any adverse events related to all forms of autologous transfusion to the Hospital Transfusion Committee. The panel encourages the development of the Serious Hazards Of Transfusion (SHOT) reporting system to cover all autologous techniques. In addition, all problems with equipment should be reported to the Medical Devices Agency.

FUTURE DIRECTIONS

Further development of autologous transfusion will require that a number of the issues, identified at this conference, should be addressed. These are:

- vigorous audit of perioperative blood usage,
- addressing the barriers to change, including budgetary structures within Trusts, and the VAT treatment of disposable equipment,
- clarification of the cost-effectiveness and cost implications of the routine use of autologous transfusion.

MEMBERS OF THE PANEL

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**A meeting held in the College on 11 November 1998, as a follow-up to the 1995 Consensus Conference on* Autologous Transfusion. *The 1995 Consensus Statement is recorded in* Proceedings *vol 26 pp.73-4.*